

TABLE III-continued

MIXING TIMES AND SET TIMES OF ANIONIC SLURRIES					
Emulsifier	% Dosage	Aggregate Mixing ^(a)	Comments	Set Time (min)	% Coating ^(b)
condensate, carboxyethylated		5.5W 16E 2N	Flow excellent	60+	40
		10W 16E 2N 0.5 Stu	Flow excellent	60+	95
Tall oil pitch - polyamine condensate, carboxyethylated	1.2	10W 16E	Broke in 5 secs.		
		5.5W 16E 2N	Flow excellent	60+	40
		10W 16E 2N 0.5 Stu	Flow excellent	60+	90
Soybean oil - polyamine carboxyethylated	1.2	10W 16E	Broke in 25 secs.		
		8W 16E 2N	Flow excellent	60+	30
		8W 16E 2N 0.5 Stu	Flow excellent	60+	85
C ₂₂ -dicarboxylic acid/C ₁₈ -monocarboxylic acid polyamine condensate, carboxyethylated	1.2	10W 16E	Broke in 50 secs.		
		10W 16E 2N	Flow excellent	60+	30
Tall oil fatty acid - polyamine condensate - fumarized	1.2	10W 16E 1N 0.5 Stu	Flow excellent	95	90
		10W 16E	Broke after 5 secs.		
		10W 16E 2N	Flow excellent	60+	40
		10W 16E 2N 0.5 Stu	Flow excellent	60+	90

^(a)Percent of water (W), emulsion (E), 1% NaOH (N) and Plaster of Paris (Stucco) based on the weight of the aggregate.

^(b)Determined by boiling the test specimen in water for 10 minutes.

Addition of 0.01-0.02% sodium hydroxide to the pre-wet water of the slurry seal mix extends the mixing time beyond the required one minute, but has a detrimental effect on the adhesion of the asphalt to the aggregate. Less than 50% of the aggregate surface is coated. Addition of 0.5% Plaster of Paris to the aggregate improves adhesion performance. The area of coated surface increases to 85-95%.

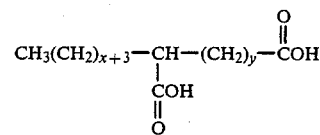
While this invention has been described and illustrated herein by references to various specific materials, procedures and examples, it is understood that the invention is not restricted to the particular materials, combinations of materials, and procedures selected for that purpose. Numerous variations of such details can be employed, as will be appreciated by those skilled in the art.

What is claimed is:

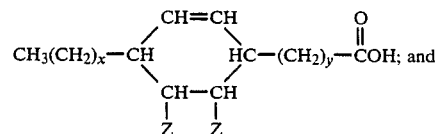
1. An improved bituminous emulsion-aggregate paving slurry comprising aggregate and from about 15% to about 25%, based on the weight of the aggregate, of a bituminous emulsion comprised of from about 30% to about 80%, based on the weight of the emulsion, of bitumen, from about 0.2% to about 10%, based on the weight of the emulsion, of an emulsifier selected from the group of cationic and anionic emulsifiers, and water to make up 100%, based on the weight of the emulsion, wherein the improvement comprises extended mixing time and improved adhesion of the bitumen to the aggregate after evaporation of the water by the addition to the slurry of from about 0.1% about 2%, based on the weight of the aggregate, of calcium sulfate hemihydrate.

2. An improved bituminous emulsion-aggregate paving slurry comprising aggregate and from about 15% to about 25%, based on the weight of the aggregate, of a bituminous emulsion comprised of from about 30% to about 80%, based on the weight of the emulsion, of

bitumen and from about 0.2% to about 10%, based on the weight of the emulsion, of an emulsifier selected from the group of emulsifiers consisting of C₈-C₂₀ fatty amines, propane diamines, triamines, tetramines, and the reaction products of polyamines reacted with: sulfonated fatty acid; sulfonated oleic acid; the reaction products of animal fats and vegetable oils with a member of the group consisting of fumaric acid, maleic anhydride, acrylic acid and methacrylic acid; the epoxidized derivative of a member of the group consisting of soybean oil, linseed oil, and esters selected from the group consisting of alkyl oleates, alkyl tallates, and animal fats obtained by epoxidation with a member of the group consisting of peracetic acid and perbenzoic acid; reaction products of rosin resin acids with a member of the group consisting of fumaric acid, maleic anhydride, acrylic acid, and methacrylic acid; C₈-C₂₂ polycarboxylic acid of the general formula



and



carboxylic acid anhydrides of the general formula